Pandemic Influenza Q & A

Adapted from www.PandemicFlu.gov, by the Department of Health and Human Services

What Is an Influenza Pandemic?

A pandemic is a global disease outbreak. An influenza pandemic occurs when a new influenza A virus emerges for which there is little or no immunity in the human population, begins to cause serious illness and then spreads easily person-to-person worldwide.

Historically, the 20th century saw 3 pandemics of influenza:

- 1918 influenza pandemic caused at least 675,000 U.S. deaths and up to 50 million deaths worldwide
- 1957 influenza pandemic caused at least 70,000 U.S. deaths and 1-2 million deaths worldwide
- 1968 influenza pandemic caused about 34,000 U.S. deaths and 700,000 deaths worldwide

Characteristics and challenges of a pandemic:

1. **Rapid Worldwide Spread**
   - When a pandemic influenza virus emerges, its global spread is considered inevitable.
   - Preparedness activities should assume that the entire world population would be susceptible.
   - Countries might, through measures such as border closures and travel restrictions, delay arrival of the virus, but cannot stop it.

2. **Health Care Systems Overloaded**
   - Most people have little or no immunity to a pandemic virus. Infection and illness rates soar. A substantial percentage of the world's population will require some form of medical care.
   - Nations are unlikely to have the staff, facilities, equipment and hospital beds needed to cope with large numbers of people who suddenly fall ill.
   - Death rates are high, largely determined by four factors: the number of people who become infected, the virulence of the virus, the underlying characteristics and vulnerability of affected populations and the effectiveness of preventive measures.
   - Past pandemics have spread globally in two and sometimes three waves.

3. **Medical Supplies Inadequate**
   - The need for vaccine is likely to outstrip supply.
   - The supply of antiviral drugs is also likely to be inadequate early in a pandemic.
   - A pandemic can create a shortage of hospital beds, ventilators and other supplies. Surge capacity at non-traditional sites such as schools may be created to cope with demand
   - Difficult decisions will need to be made regarding who gets antiviral drugs and vaccines.

4. **Economic and Social Disruption**
   - Travel bans, closings of schools and businesses and cancellations of events could have major impact on communities and citizens.
   - Care for sick family members and fear of exposure can result in significant worker absenteeism.

Communications and Information are Critical Components of Pandemic Response

Education and outreach are critical to preparing for a pandemic. Understanding what a pandemic is, what needs to be done at all levels to prepare for pandemic influenza, and what could happen during a pandemic helps us make informed decisions both as individuals and as a nation. Should a pandemic occur the public must be able to depend on its government to provide scientifically sound public health information quickly, openly and dependably.

What's Happening Now?

A pandemic is a global disease outbreak. Flu pandemic occurs when a new influenza virus emerges for which people have little or no immunity, and for which there is no vaccine. The disease spreads easily person-to-person, causes serious illness, and can sweep across the country and around the world in very short time.

It is difficult to predict when the next influenza pandemic will occur or how severe it will be. Wherever and whenever a pandemic starts, everyone around the world is at risk. Countries might, through measures such as border closures and travel restrictions, delay arrival of the virus, but cannot stop it.

Health professionals are concerned that the continued spread of a highly pathogenic avian H5N1 virus across eastern Asia and other countries represents a significant threat to human health. The H5N1 virus has raised concerns about a potential human pandemic because:

- It is especially virulent
- It is being spread by migratory birds
- It can be transmitted from birds to mammals and in some limited circumstances to humans, and
- Like other influenza viruses, it continues to evolve.

Since 2003, a growing number of human H5N1 cases have been reported in Asia, Europe, and Africa. More than half of the people infected with the H5N1 virus have died. Most of these cases are all believed to have been caused by exposure to infected poultry. There has been no sustained human-to-human transmission of the disease, but the concern is that H5N1 will evolve into a virus capable of human-to-human transmission.

Human Infection with Avian Influenza Viruses

"Human influenza virus" usually refers to those subtypes that spread widely among humans. There are only four known A subtypes of influenza viruses (H1N1, H1N2, H3N2, and H7N2) currently circulating among humans. It is likely that some genetic parts of current human influenza A viruses originally came from birds. Influenza A viruses are constantly changing, and other strains might adapt over time to infect and spread among humans.

The risk from avian influenza is generally low to most people, because the viruses do not usually infect humans. H5N1 is one of the few avian influenza viruses to have crossed the species barrier to infect humans, and it is the most deadly of those that have crossed the barrier.

Most cases of H5N1 influenza infection in humans have resulted from contact with infected poultry (e.g., domesticated chicken, ducks, and turkeys) or surfaces contaminated with secretion/excretions from infected birds. So far, the spread of H5N1 virus from person to person has been limited and has not continued beyond one person. Nonetheless, because all influenza viruses have the ability to change, scientists are concerned that H5N1 virus one day could be able to infect humans and spread easily from one person to another.

Because these viruses do not commonly infect humans, there is little or no immune protection against them in the human population. If H5N1 virus were to gain the capacity to spread easily from person to person, a pandemic (worldwide outbreak of disease) could begin. No one can predict when a pandemic might occur. However, experts from around the world are watching the H5N1 situation very closely and are preparing for the possibility that the virus may begin to spread more easily and widely from person to person.

For more information about human infection, see http://www.cdc.gov/flu/avian/gen-info/avian-flu-humans.htm

What would be the Impact of a Pandemic?

A pandemic may come and go in waves, each of which can last for six to eight weeks. An especially severe influenza pandemic could lead to high levels of illness, death, social disruption, and economic loss. Everyday life would be disrupted because so many people in so many places become seriously ill at the same time. Impacts can range from school and business closings to the interruption of basic services such as public transportation and food delivery.

A substantial percentage of the world's population will require some form of medical care. Health care facilities can be overwhelmed, creating a shortage of hospital staff, beds, ventilators and other supplies. Surge capacity at non-traditional sites such as schools may need to be created to cope with demand.

The need for vaccine is likely to outstrip supply and the supply of antiviral drugs is also likely to be inadequate early in a pandemic. Difficult decisions will need to be made regarding who gets antiviral drugs and vaccines.

How are We Preparing?

The United States has been working closely with other countries and the World Health Organization to strengthen systems to detect outbreaks of influenza that might cause a pandemic. See Global Activities.

The effects of a pandemic can be lessened if preparations are made ahead of time. Planning and preparation information and checklists are being prepared for various sectors of society, including information for individuals and families. See Planning & Response Activities.

The federal government will provide up-to-date information and guidance to the public through the public media and this web site should an influenza pandemic unfold.

Factsheets

- How Does Seasonal Flu Differ From Pandemic Flu? - http://www.pandemicflu.gov/general/season_or_pandemic.html
- Frequent Questions (FAQs) - http://www.pandemicflu.gov/faq/index.html
- Pandemics and Pandemic Threats since 1900 - http://www.pandemicflu.gov/general/historicaloverview.html
  Learn about the three pandemics and several "pandemic threats" that have occurred.
- Pandemic Influenza--Past, Present, Future: Communicating Today Based on the Lessons from the 1918-1919 Influenza Pandemic - http://www.pandemicflu.gov/general/workshopindex.html